Background: Since the early 1900s, high-voltage electric transmission infrastructure has been the backbone of most of the world’s power grids. By transporting bulk power generation to load centers across large geographic areas, transmission networks leverage economies of scale to deliver electricity to consumers at a lower cost than could otherwise have been achieved. Today, as power systems across the world experience transformational changes in technology, economics, and regulation, transmission systems continue to play an indispensable and integral role of delivering affordable, clean, reliable, resilient energy to customers. The role of transmission, however, is evolving, and traditional boundaries separating transmission and distribution systems and stakeholders are being redefined. Against this backdrop, a coalition of industry associations invite interested stakeholders to participate in a two-day public discussion with a global perspective on the future of electric transmission in the 21st century. This forum will provide an opportunity to discuss:

- strategies for maximizing value from existing transmission assets, as well as for financing and building new electric transmission infrastructure;
- opportunities and barriers to greater regional and international regional interconnection;
- how innovation is reshaping the planning, construction, operation, and maintenance of transmission assets;
- ongoing trends regarding strengthening the security and resilience of transmission infrastructure;
- the changing relationship between transmission and distribution networks, and the role of transmission in a high-distributed energy resources future;
- experiences learned in North America, Asia, Europe, and other regions around the world on rate reform and other regulatory challenges; and
- strategies for communicating the value of transmission networks to investors, customers, government officials, and other stakeholders.

Format: This two-day event is open to the public, subject to capacity. Sessions will include keynote speakers, panel discussions, publication releases, networking breaks, site visits, and other formats to facilitate peer learning and dialogue.

Expected Attendance: Industry leaders and executives responsible for transmission strategy, planning, and related roles; regional and national industry associations; industry and research institutions; energy regulators and policymakers; investors; and other interested stakeholders from Asia, Europe and North America.
Tuesday, September 10

08:00 – 09:00  Registration

09:00 – 09:30  Welcome & Opening Remarks

- Francis Bradley, Chief Executive Officer, Canadian Electricity Association | Canada
- Lawrence Jones, Vice President – International Programs, Edison Electric Institute | United States
- Maureen Daschuk, Senior Vice President - Integrated Planning, BC Hydro | Canada
- Ray Natraoro | Squamish Nation

09:30 – 10:30  Industry Leadership Dialogue

- Francis Bradley, Chief Executive Officer, Canadian Electricity Association | Canada
- Liu Zhenya, Chairman, Global Energy Interconnection Development and Cooperation Organization | China
- Mohamed Rashwan, Chairman, CIGRE Canada | Canada
- Tom Kuhn, President, Edison Electric Institute | United States
- (moderator) Steve Mitnick, Editor in Chief, Public Utilities Fortnightly | United States

10:30 – 11:00  Networking Break

11:00 – 12:15  Session I: The Role of Transmission in a Distributed and Renewable Energy Future

Some Distributed Energy Resource (DER) advocates believe that the growth of DERs will reduce the importance of transmission infrastructure, and that current investments in new projects will burden customers with large stranded costs because these assets, with decades-long lifespans, could become obsolete before they need to be retired. Others argue that a high-DER future necessitates more transmission infrastructure investment in order to improve grid visibility, coordination, and management to cost-effectively meet customer needs and fully leverage the temporal and geographic diversity of DERs. This panel will discuss the evolving role of transmission in a future filled with increased penetration of distributed resources and how a changing supply mix will alter how the grid should be planned and operated.

- Ahmed Maria, Director – Transmission Planning, Independent Electricity System Operator | Canada
- Gary Jackson, Executive Director, Center for Renewable Energy and Energy Efficiency | Barbados
- Haibin Sun, Director of Transmission Analysis & Transmission Strategy, Exelon Corporation | United States
- Keith Casey, Vice President - Market & Infrastructure Development, California Independent System Operator | United States
- Kory Hayko, Vice President - Transmission & Industrial Services, SaskPower | Canada
- Liu Guoyue, Vice President, State Grid Corporation of China | China
- (moderator) Michael Yackira, former President & CEO, NV Energy | United States

12:15 – 13:15  Luncheon

13:15 – 14:30  Session II: Opportunities for Network Expansion and Cross-Border Interconnection

By expanding or interconnecting regional balancing areas, cross-border transmission capacity provides power systems with operational and economic benefits by allowing for surplus generation capacity to more easily flow to load centers during times of high demand. It is also widely recognized as a valuable design characteristic for decarbonizing the power sector and integrating large shares of renewable energy in a cost-effective manner. However, there are numerous technical, regulatory and legal issues associated with the transmission of electricity across subnational and international borders, including: permitting and siting, capacity allocation, and cost allocation. This panel will share insights on opportunities and challenges in developing cross-border transmission interconnections.

- Bi Yaxiong, Vice President, China Southern Grid | China
- Gao Yi, Director of Energy Planning Research, GEIDCO | China
- Ladio Sogoba, Deputy Chief Executive Officer and Chief Operating Officer, Energie du. Mali S.A. | Mali
- Marc Boucher, President, Hydro-Québec TransÉnergie | Canada
- (moderator) Saifur Rahman, President, IEEE Power and Energy Society | United States
14:30 – 15:30  Session III: Strategies for Addressing Siting Challenges in New Grid Infrastructure

Constructing or upgrading transmission systems requires a complex and challenging process that involves multiple stakeholder groups. The length and difficulty of siting and permitting is a major reason why the development of new transmission facilities is, in many jurisdictions, not keeping pace with the need. As many countries move to consider even larger trans-regional or inter-national transmission lines, new processes for managing siting and permitting may be required. This panel will discuss Canadian and international experiences in siting and permitting new grid infrastructure to identify good practices and effective approaches in stakeholder engagement to address common challenges in social license, indigenous relations, ownership models, and jurisdictional misalignment.

- Graeme Steele, Managing Director, GES Energy Consulting Ltd and Senior Advisor to Interconnector | United Kingdom
- Lanny Nickell, Senior Vice President – Engineering, Southwest Power Pool | United States
- Mark McCullough, Executive Vice President - Transmission, American Electric Power | United States
- Mohamed Al-Shaikh, Chief Network Officer, Gulf Coast Council Interconnection Authority | Bahrain
- Shane Mailey, Vice President - Transmission, Manitoba Hydro | Canada

15:30 – 16:00  Networking Break

16:00 – 17:00  Session IV: New Business Models and Rate Designs – Who Pays for the Future Grid?

The ongoing transformation to a more efficient and more complex transmission grid brought about by advanced technologies means the transmission business model is also changing. Business models of some transmission infrastructure owners are being challenged in Canada and around the world as they face less demand for electricity sales, increasing demands for new services and uses of their system, and perceived “non-wires alternatives.” In addition, the transmission grid is delivering value to customers in different ways than in the past by providing a platform for new technologies and delivering new services. As the value delivered to customer changes, does the business model, and more specifically, the rate structure to recover transmission investment, need to change? Currently, what are some successful transmission rate models from around the world, and where does rate-making need to go to ensure continued transmission investment to deliver safe, affordable, and reliable electricity to customers?

- David Morton, Chair and Chief Executive Officer, British Columbia Utilities Board | Canada
- Rudy Wynter, Chief Operating Officer, National Grid | United States
- Rohan Seale, Director - Asset Management, Barbados Light & Power | Barbados
- Scott Hawkes, President & Chief Executive Officer, FortisOntario | Canada
- (moderator) Francis Bradley, Chief Executive Officer, Canadian Electricity Association | Canada

17:00 – 18:00  Networking Reception
Wednesday, September 11

08:00 – 09:00  Registration

09:00 – 09:45  Keynote Presentation

  - James B. Robb, President & CEO, North American Electricity Reliability Corporation | United States

09:45 – 10:45  Session V: Electrifying Personal Transportation – Insights from Leading Jurisdictions

  Jurisdictions around the world are setting ambitious goals for electrifying the transport sector. Many jurisdictions are aiming for 100 percent zero emission bus fleets and zero emission personal vehicle sales by 2040, 2030 or sooner. Some countries are also moving to electrify ferries and medium and heavy-duty trucks. Electrifying transportation will significantly reduce airborne particulate and greenhouse gas (GHG) emissions, while providing growth opportunities for electric companies. Effectively integrating electric transportation, however, will require thoughtful planning and new investments in grid infrastructure. This session will highlight personal transportation electrification in leading jurisdictions and the technical and operational lessons learned from these pioneering efforts.

  - Baerte de Brey, Chief International Officer, ElaadNL | Netherlands
  - Niu Jincang, Vice President, State Grid EV Service | China
  - Paul Grigaux, Vice President - Asset Management, Strategy & Engineering, Southern California Edison | United States
  - (moderator) Alex Boston, Executive Director, Renewable Cities | Canada

10:45 – 11:00  Networking Break

11:00 – 12:00  Session VI: Technology Innovations for Grid Planning, Operations and Maintenance

  Innovation is occurring across the value chain of the electric power industry with the application of new technologies offering better performance, lower costs, and greater capability for electric companies, grid operators, and customers alike. Advances in ultra-high voltage AC and DC transmission are helping connect remote low-cost renewable resources to load centers with increased efficiency, while advances in use of drones, sensors, automation systems, and data analytics are fundamentally changing the way that transmission lines are planned and maintained. This panel will focus on the sharing of international examples of the technologies, methods, and operational practices that are changing the way transmission companies plan, construct, and maintain long distance power lines.

  - Frank Kreikebaum, Senior Vice President of Products and Solutions, Smart Wires | United States
  - Kevin Cosgriff, President & CEO, National Electrical Manufacturers Association | United States
  - Manlio Covello, President of the Board, Terna Plus | Italy
  - Tom Wilson, Principal Technical Executive, Electric Power Research Institute | United States
  - (moderator) Ted Craver | former Chairman, President, and CEO, Edison International | United States

12:00 – 13:00  Session VII: Building for Resiliency in an Era of Climate Change and Extreme Weather

  Grid infrastructure faces new vulnerabilities in the 21st century. In North America, for example, the number of annual extreme weather events exceeding USD 1 billion in damage has doubled over the past decade. Similarly, the proliferation of digital technologies in the electric power industry has been accompanied by an increase in cyber threats from increasingly sophisticated actors. These evolving threats raise many questions about managing risk and planning for resiliency in the decades to come.

  - Devon Cox, Senior Vice President of Operations, FortisTCI | Turks & Caicos
  - Devon O. Niel Gardner, Program Manager – Energy, Caribbean Community Secretariat | Guyana
  - Rod Eagles, Director – Corporate Project Management Office, New Brunswick Power | Canada
  - Paul Lee, Director – System Operations, Altalink | Canada
  - (moderator) Lawrence Jones, Vice President – International Programs, Edison Electric Institute | United States

13:00 – 14:00  Luncheon

14:00 – 17:00  BC Hydro Site Visits

  PowerEx, PowerTech